# Louisiana Department of Environmental Quality (LDEQ)
# Office of Environmental Services

# STATEMENT OF BASIS

Joyce Mill
West Fraser, Inc.
Joyce, Winn Parish, Louisiana
Agency Interest Number: 2866
Activity Number: PER20090001
Proposed Permit Number: 3240-00006-V2

## I. APPLICANT

**Company:**
West Fraser, Inc.
P.O. Box 1
Joyce, Louisiana 71440-0001

**Facility:**
Joyce Mill
6481 Hwy 34
Joyce, Winn Parish, Louisiana
31.946944 latitude, 92.590833 longitude, Coordinate Method: Lat.\Long. - DMS, Coordinate Datum: NAD83

## II. FACILITY AND CURRENT PERMIT STATUS

Joyce Mill is an existing facility located in Winn Parish near Joyce. Joyce Mill was previously owned and operated by Riverwood International Corporation and Plum Creek. Joyce Mill obtained an initial Part 70 operating permit, Permit No. 3240-00006-V0, and a PSD permit, PSD-LA-679, on April 24, 2002. Under Permit No. 3240-00006-V1 issued July 17, 2004, Joyce Mill underwent construction to increase lumber production from 240 million board feet per year to 300 million board feet per year. The facility currently operates under Permit No. 3240-00006-V1, PSD-LA-679, and PSD-LA-701 issued July 19, 2004, amended July 22, 2004.

## III. PROPOSED PROJECT/PERMIT INFORMATION

**Application**

A permit application and Emission Inventory Questionnaire were submitted by West Fraser, Inc. dated February 19, 2009 requesting a Part 70 operating permit. Additional information dated June 25, 2009 was also received.

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## Project

Joyce Mill produces lumber and wood wastes, such as wood chips, shavings, sawdust and bark. The wood waste is used for fuel in the boilers.

With submittal of this renewal, West Fraser, Inc. includes emission updates obtained from recent data, thus, classifying the Joyce Mill as a major source for Toxic Air Pollutants (TAPs). Also, the Joyce Mill operates one 281 horsepower diesel-fired fire water pump engine (FP-1) that will be added to the permit as an emission point.

## Proposed Permit

Permit 3240-00006-V2 will be the renewal/modification of Part 70 operating permit 3240-00006-V1 for the Joyce Mill facility.

## Permitted Air Emissions

Estimated emissions in tons per year are as follows:

| Pollutant | Before | After | Change |
|---|---|---|---|
| $PM_{10}$ | 736.44 | 736.44 | 0.0 |
| $SO_2$ | 35.70 | 35.70 | 0.0 |
| $NO_X$ | 569.40 | 522.06 | - 47.34 |
| CO | 2146.90 | 2146.90 | 0.0 |
| VOC * | 786.00 | 786.40 | + 0.40 |
| VOC TAPs | 16.522 | 75.913 | +59.391 |
| Non-VOC TAPs | 3.001 | 3.69 | +0.689 |

*VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

| Pollutant | Before | After | Change |
|---|---|---|---|
| Acetaldehyde | 0.980 | 0.985 | + 0.005 |
| Acrolein | 4.740 | 4.744 | + 0.004 |
| Benzene | 4.990 | 4.981 | - 0.009 |
| Formaldehyde | 5.220 | 7.619 | +2.399 |
| Methyl ethyl ketone | 0.0 | 0.006 | + 0.006 |
| Carbon Tetrachloride | 0.0 | 0.052 | + 0.052 |
| Chlorobenzene | 0.0 | 0.038 | + 0.038 |
| Chloroform | 0.0 | 0.033 | + 0.033 |

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*VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

| Pollutant | Before | After | Change |
|---|---|---|---|
| Methyl chloride | 0.0 | 0.028 | + 0.028 |
| Methanol | 0.0 | 30.750 | + 30.750 |
| Dichloromethane | 0.0 | 0.344 | + 0.344 |
| 1,2-Dichloropropane | 0.0 | 0.038 | + 0.038 |
| Ethyl benzene | 0.100 | 0.037 | - 0.063 |
| Propionaldehyde | 0.0 | 0.073 | + 0.073 |
| 2,2,4-Trimethylpentane | 0.002 | 0.0 | - 0.002 |
| Styrene | 0.0 | 2.253 | + 2.253 |
| Toluene | 0.100 | 1.091 | + 0.991 |
| n-Hexane | 0.100 | 0.0 | - 0.100 |
| 1,1,1-Trichloroethane | 0.0 | 0.037 | + 0.037 |
| Vinyl Chloride | 0.0 | 0.022 | + 0.022 |
| Xylene (mixed isomers) | 0.100 | 0.027 | - 0.031 |
| Polynuclear Aromatic Hydrocarbons | 0.0 | 0.004 | + 0.004 |
| 2,3,7,8-Tetrachlorodibenzo p-dioxin | 0.0 | 0.003 | + 0.003 |
| Chloronated dibenzo p-dioxins | 0.0 | 0.003 | + 0.003 |
| Phosphorus | 0.0 | 0.032 | + 0.032 |
| Hydrochloric acid | 0.0 | 22.537 | + 22.537 |
| Naphthalene | 0.130 | 0.116 | - 0.014 |
| Phenol | 0.060 | 0.060 | 0.0 |
| Total | 16.522 | 75.913 | + 59.391 |

Other VOC (TPY): 710.487

*Non-VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

| Pollutant | Before | After | Change |
|---|---|---|---|
| Lead | 0.060 | 0.052 | -0.008 |
| Arsenic (and compounds) | 0.030 | 0.027 | -0.003 |
| Cadmium (and compounds) | 0.010 | 0.005 | -0.005 |
| Chromium VI (and compounds) | 0.004 | 0.004 | 0 |
| Cobalt compounds | 0.010 | 0.008 | -0.002 |
| Antimony (and compounds) | - | 0.009 | 0.009 |
| Barium (and compounds) | - | 0.201 | 0.201 |

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*Non-VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

| Pollutant | Before | After | Change |
|---|---|---|---|
| Beryllium (and compounds) | - | 0.003 | 0.003 |
| Zinc (and compounds) | - | 0.498 | 0.498 |
| Manganese (and compounds) | 1.900 | 1.899 | -0.001 |
| Mercury (and compounds) | 0.004 | 0.004 | 0 |
| Nickel (and compounds) | 0.040 | 0.038 | -0.002 |
| Selenium (and compounds) | 0.003 | 0.004 | 0.001 |
| Chlorine | 0.940 | 0.938 | -0.002 |
| Total | 3.001 | 3.69 | +0.689 |

## IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

This permit was reviewed for compliance with 40 CFR 70, the Louisiana Air Quality Regulations, New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP).

The Joyce Mill currently operates under permit no. PSD-LA-701 issued July 17, 2004.

This facility is a major source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51.

**Applicability and Exemptions of Selected Subject Items**

| ID No: | Requirement | Notes |
|---|---|---|
| EQT 3, EQT 4, and EQT 5. 74A – Kipper Boiler No. 1, 74B – Kipper Boiler No. 2, 75A- | NSPS Subpart D - Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971. [40 CFR 60.40] | DOES NOT APPLY. Steam generating unit is not capable of firing fossil fuel at a heat input rate of more than 250 MMBtu/hr. |
| | NSPS Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. [40 CFR 60.40b] | EXEMPT. Construction, modification, or reconstruction is commenced before June 19, 1984. |

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| ID No: | Requirement | Notes |
|---|---|---|
| McBurney Boiler No. 4 | NSPS Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.<br>[40 CFR 60.40c] | EXEMPT. Construction, modification, or reconstruction is commenced before June 9, 1989. |
| EQT 14, 91A – Gasoline Storage Tank | NSPS Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.<br>[40 CFR 110b] | DOES NOT APPLY. Storage vessel stores volatile organic liquids (VOL) with a capacity less than or equal to 75 cubic meters ($m^3$ ). |

**Prevention of Significant Deterioration/Nonattainment Review**

Joyce Mill concurrently operates in accordance with permit no. PSD-LA-701 issued July 17, 2004. PSD and BACT analysis are demonstrated in the PSD permit, PSD-LA-701.

**MACT Requirements**

MACT is considered compliance with ambient air standards unless it can be demonstrated to the satisfaction of DEQ that compliance with an ambient air standard would be economically infeasible; that emissions could not reasonably be expected to pose a threat to public health or the environment; and that emissions would be controlled to a level that is Maximum Achievable Control Technology.

MACT for operation of affected equipment on site is determined to be 40 CFR 63 Subpart DDDD - National Emission Standards for Hazardous Air Polluntants: Plywood and Composite Wood Products; and operation of the boilers with a flue gas oxygen concentration of greater than or equal to 2%, based on an hourly average, except during grate raking/soot blowing operations. Also, boiler shall be operated with continuous oxygen monitors that conform to the specifications of 40 CFR 60, Appendix B.

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**Air Quality Analysis**

Emissions associated with the proposed renewal were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

Dispersion Model(s) Used: NA

**General Condition XVII Activities**

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

**Insignificant Activities**

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

## V. PERMIT SHIELD

West Fraser, Inc. requests a permit shield for the Joyce Mill facility from applicability of 40 CFR 60 Subpart Kb, Subpart D, Subpart Db, and Subpart Dc. It is not necessary to establish a permit shield for the mentioned Subparts as the applicability determinations in this permit are straightforward. The determinations appear in Section XI of the Title V permit – Explanation for Exemption Status of Non-applicability of a Source. A permit shield has not been established for this permit renewal/modification.

## VI. PERIODIC MONITORING

The Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are straightforward and provided in the Specific Requirements section of the permit.

## VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

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Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide ($H_2S$) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides ($NO_X$) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane ($CH_4$), Ethane ($C_2H_6$), Carbon Disulfide ($CS_2$)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

$PM_{10}$ – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

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Sulfur Dioxide ($SO_2$) – An oxide of sulfur.

Sulfuric Acid ($H_2SO_4$) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.